

Granulomatous Hepatitis with Miliary Mottling: A Rare Cause

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Abstract

Miliary mottling is most commonly seen in tuberculosis. Clinical features of tuberculosis mimic many other lung diseases. Here we report a 40 yr old male with clinical features suggestive of tuberculosis, miliary mottling on skiagram chest and granulomatous hepatitis on histopathology. Case was finally diagnosed as sarcoidosis on liver biopsy and improved on oral corticosteroid.

Introduction

The typical differential diagnosis for miliary opacities of the lung includes tuberculosis, metastatic lesions, and pneumoconiosis.¹ Miliary shadows are atypical feature in sarcoidosis. There is paucity of literature on hepatic involvement in sarcoidosis. It rarely causes symptoms and may remain undiagnosed.² Common causes of liver granuloma are sarcoidosis, AIDS, drugs, primary biliary cirrhosis. We report a case of a young male with miliary shadows on skiagram chest and hypodense lesion in liver. Patient

was on antitubercular treatment but no relief. Final diagnosis was confirmed after histopathology of liver lesion.

Case Report

A 40 year old male presented with complaints of fever and cough since 3 months. He also reported nausea, vomiting, generalized weakness and loss of appetite since last 20 days. There was no h/o hemoptysis, chest pain, dyspnea and joint pain. He was a known case of psoriasis (diagnosed 8 years back) and diabetes mellitus (diagnosed 18 month back). Patient was on antitubercular treatment since 1 month on the basis of clinical findings and miliary mottlings on skiagram chest but he had no relief. On examination macular, hypopigmented lesions were seen on forearm and legs. There was no pallor, icterus, clubbing and palpable lymphadenopathy. Bilateral few scattered crepts heard on auscultation. Complete blood count, Renal Function tests were Normal. His Liver Function tests (LFTs) STB/SGOT/SGPT/Alkaline Phosphatase were 2.6/133/200/500 respectively. MP and Widal were negative. HIV was Non Reactive. Sputum smear was negative

for AFB. Mantoux test was negative and urine microscopic examination was Normal. Chest X – Ray PA view showed miliary shadows in bilateral mid and lower zones (Figure 1). USG abdomen showed Hepatosplenomegaly. CECT Chest showed Randomly distributed miliary nodules mainly in lower lobes and bilateral enlarged hilar lymph node with bilateral minimal pleural effusion (Figure 2). Skin biopsy revealed hyperkeratosis, parakeratosis, focal collection of perivascular lymphocytes. Bone marrow biopsy was normoblastic and there was no evidence of granuloma or malignancy. Patient underwent Fibre optic bronchoscopy which didn't show endobronchial growth or ulcer. BAL for pyogenic culture was sterile and CBNAAT was negative for Mycobacterium tuberculosis and Trans bronchial lung biopsy revealed no evidence of granuloma or malignancy. His CECT Abdomen showed Hepatomegaly with small hypodense lesion seen in Seg. VII of liver showing peripheral discontinuous nodular enhancement (Figure 3). Subtle periportal hypodensity seen along intrahepatic right and left portal veins and subcentimeter lymphnodes seen in portal-periportal and peripancreatic regions. Subsequently Liver Biopsy (Figure 4) revealed Granulomatous Hepatitis with presence of non-caseating epithelioid cell granulomas along with occasional Langhans's Giant cells both in portal tract as well as lobular parenchyma. Non caseating granuloma suggested the diagnosis of sarcoidosis. Patient had high serum ACE level (105.3 u/l) and elevated 24 hour urinary calcium (659.0 mg/24hr) which further supported the diagnosis of Sarcoidosis. Serum calcium (8.9 mg/dl) was within normal range. As this case had non-caseating epithelioid cell granulomas on liver biopsy and lung involvement in form of miliary shadows, it was diagnosed as stage III Sarcoidosis. Patient was



Fig. 1: Skiagram chest showing miliary nodules in B/L lower lung zone

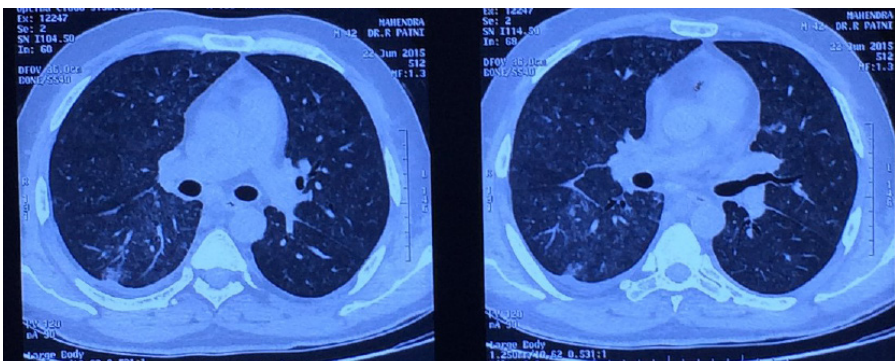


Fig. 2: CT chest showing randomly distributed miliary nodules in bilateral lung



Fig. 3: CECT abdomen showing small hypodense lesion in segment VII of liver

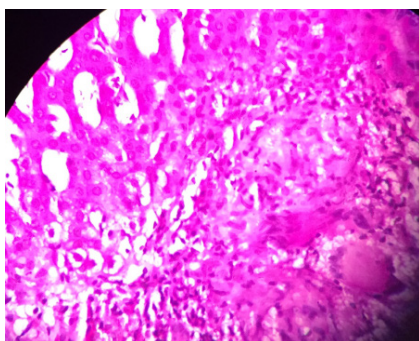


Fig. 4: Liver biopsy showing noncaseating epithelioid cell granulomas along with occasional Langhans' giant cells both in portal as well as lobular parenchyma



Fig. 5: Follow up chest X-ray showing disappearance of miliary shadows

put on oral prednisolone 50 mg and Hydroxychloroquine 400 mg daily. The dose of oral prednisolone was slowly tapered to 10mg/day in 3 months as patient improved clinically. Patient continued prednisolone for next 3 months. X-ray chest (Figure 5) and CT scan chest (Figure 6) after 6 month of follow up showed marked improvement.

Discussion

Sarcoidosis is likely to be as a result of an interplay of environmental and

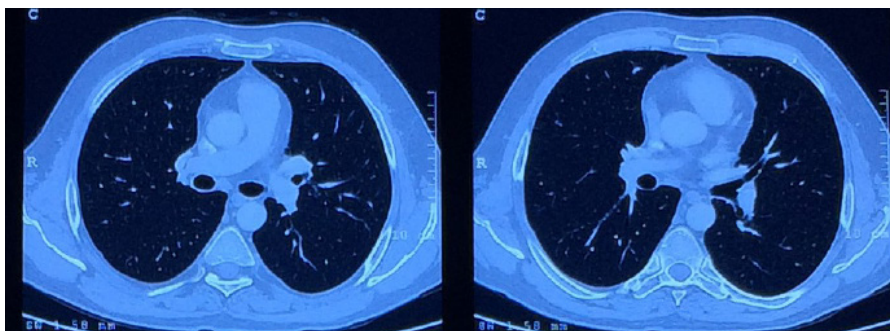


Fig. 6: Follow up CT chest after 6 month of steroid treatment

genetic factors as well as an external agent triggering a characteristic immune response in genetically susceptible individuals.³ It targets primarily the lung and hilar lymph nodes. Liver, spleen, heart, bone marrow and less often eye, skin and salivary glands are extrapulmonary sites of disease manifestation.⁴ In pulmonary sarcoidosis, the typical findings include perilymphatic nodules, interlobular septal thickening, and bilateral perihilar opacities. In contrast, miliary opacities are rare and atypical. The typical differential diagnosis for miliary opacities of the lung includes tuberculosis, metastatic lesions, and pneumoconiosis.¹ Liver enlargement is found on USG or CT scan in up to 50% of cases, often accompanied by splenomegaly and less often by abdominal lymph node enlargement. Hepatic granulomas are found on CT in only few cases (< 5% of patients). They are typically visualized as multiple, discrete, low attenuating, non enhancing nodules of variable size (0.5 – 0.8 cm).⁵ Treatment of hepatic sarcoidosis depends on clinical manifestation. No treatment is required when non-caseating granulomas are encountered without clinical or biochemical liver disease. In cases of liver function test abnormalities without evidence of systemic sarcoid involvement-treatment is still a controversial issue because, even untreated patients demonstrate “spontaneous” LFTs improvement. Since chronic use of corticosteroids is the main stay of therapy in systemic sarcoidosis, it seems prudent to observe (with serial liver function test) those patients who are asymptomatic or have only mild disease that may spontaneously remit.^{3,6}

Chloroquine and hydroxychloroquine are antimalarial drugs with immunomodulating

properties, which have been used for cutaneous lesions, hypercalcemia, neurological sarcoidosis, and bone lesions.⁶

The diagnosis of sarcoidosis is established when clinicoradiographic findings are supported by histologic evidence of non-caseating granulomatous inflammation and other causes of granulomas have been excluded.² The diagnosis of sarcoidosis requires evidence of multisystem disease such that granulomatous inflammation is present in at least two organs. However, the diagnosis of sarcoidosis does not necessarily require histological confirmation in a second organ. An elevated serum ACE (normal value 8-53 U/L) has specificity of 90% and sensitivity 57%. Our case is unique as randomly distributed miliary nodules are unusual feature in sarcoidosis. Secondly hepatic sarcoidosis is infrequently associated with symptomatic liver disease. Thirdly patient had all clinical features mimicking tuberculosis.

References

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